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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
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William Donaldson

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EXAMINER

ROMAN, LUIS ENRIQUE

ART UNIT

PAPER NUMBER

2836

DATE MAILED: 08/24/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

10/607,749

Applicant(s)

DONALDSON ET AL.

Examiner

Luis Roman

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 07 June 2006.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-19 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-4, 6-10, 12-16, 18 and 19 is/are rejected.
- 7) ☐ Claim(s) 5, 11, 17 is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|---|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413) |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | Paper No(s)/Mail Date. _____ |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

Applicant amendment filed on 06/07/06 has been entered. Accordingly claims 1-19 have been kept original, no claim has been amended and no claim has been cancelled. No new claims were added. It also included remarks/arguments.

Claim Rejections - 35 USC § 102

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –
(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

Claims 1, 2, 3, 7, 8, 9, 13, 14, 15 & 19 are rejected under 35 U.S.C. 102(b) as being anticipated by Skibinski et al. (US 5483142).

Regarding claim 1 Skibinsky et al. discloses a protection circuit comprising: a control circuit (Col. 3 lines 14-18<timer control>) for controlling switching of at least one switch (Fig. 3 elements 54) of a floating power transfer device, the at least one switch controlling charging of a reservoir capacitor (Fig. 3 element 60) of the floating power transfer device across which a load is applied when in use (Fig. 3 element 61); a fault detection circuit for detecting a fault in at least one of the floating power transfer device or the load (Col. 3 lines 11-14 & Fig. 3 element 77<a differential amplifier compares the voltage at the load>), and for sending a fault detect signal to the control circuit responsive thereto (Fig. 3 signal going from elements 77 to 78), a pre-charge driver circuit for pre-charging the reservoir capacitor, the pre-charge driver circuit being enabled by the control circuit responsive to receipt of the fault detect signal from the fault detection circuit, wherein when enabled, the pre-charge driver circuit attempts to pre-

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charge the reservoir capacitor to a voltage level sufficient for switching of the at least one switch to proceed without damaging the at least one switch (Fig 3 elements 62, 64, 66, 68, 70, 71a, 71b, 72, 74, 76 controlled by element 78 when receiving a signal from element 77).

Regarding claim 2 Skibinsky et al. further teaches the isolation between the fault signal and the control signal for the pre-charging (Fig. 3 element 72)

Regarding claim 3 Skibinsky et al. further teaches the functioning of a pre-charge circuit in the event of an undervoltage. (Col. 6 lines 16-18).

Regarding claim 7 Skibinsky et al. discloses a device comprising: a reservoir capacitor (Fig. 3 element 60) across which a load is applied when in use (fig. 3 element 61); a power supply voltage (Fig. 3 element 76) for charging the reservoir capacitor; at least one switch (Fig. 3 elements 54) coupled between the power supply voltage and the reservoir capacitor to selectively connect and disconnect the power supply voltage from the reservoir capacitor (Fig. 3 signal out of element 78 to element 54); and a protection circuit for the at least one switch, the protection circuit including: a control circuit (Fig. 3 element 78) for controlling switching of the at least one switch of the device (Fig. 3 elements 54), fault detection circuit for detecting (Fig. 3 element 77) a fault in at least one a of the device or the load, and for sending a fault detect signal to the control circuit responsive thereto; a pre-charge driver circuit for pre-charging the reservoir capacitor, the pre-charge driver circuit being enabled by the control circuit responsive to receipt of the fault detect signal from the fault detection circuit, and wherein when enabled, the pre-charge driver circuit attempts to pre-charge the reservoir capacitor to a voltage level sufficient for switching of the at least one switch to proceed without damaging the at least one switch (Fig 3 elements 62, 64, 66, 68, 70, 71a, 71b, 72, 74, 76 controlled by element 78 when receiving a signal from element 77<the switches are protected by precharging the capacitor to a level enough not to exposed to switches to high voltages when connecting the supply to the load>).

Regarding claim 8 Skibinsky et al. further teaches the isolation between the fault signal and the control signal for the pre-charging (Fig. 3 element 72)

Regarding claim 9 Skibinsky et al. further teaches the functioning of a pre-charge circuit in the event of an undervoltage. (Col. 6 lines 16-18).

Regarding claim 13 Skibinsky et al. discloses an apparatus/method (a person of the ordinary skill will understand a method that is intrinsically described by the functioning of the apparatus) comprising: controlling switching (Fig. 3 element 78) of at least one switch (Fig. 3 elements 54), the at least one switch controlling charging of a reservoir capacitor (Fig. 3 element 60) of a floating power transfer device across which a load is applied when in use (Fig. 3 element 61); monitoring at least one of the floating power device and the load for detecting a fault (Fig. 3 element 77), and upon detecting a fault, generating a fault detect signal (Fig. 3 signal from elements 77 to 78); the circuit being responsive to generating of the fault detect signal (Fig. 3 signal from elements 78 to 54), attempting to pre-charge the reservoir capacitor to a voltage level sufficient for switching of the at least one switch to proceed without damaging the at least one switch (Fig 3 elements 62, 64, 66, 68, 70, 71a, 71b, 72, 74, 76 <these components form part of the precharge circuit that precharge the capacitor 60, they are controlled by element 78 when receiving a signal from element 77, the switches are protected by precharging the capacitor to a level enough not to exposed to switches to high voltages when connecting the supply to the load>).

Regarding claim 19 Skibinsky et al. discloses a circuit comprising: means for controlling switching (Fig. 3 element 78) of at least one switch (Fig. 3 element 54), the at least one switch controlling charging of a reservoir capacitor (Fig. 3 element 60) of a floating power transfer device across which a load is applied when in use (Fig. 3 element 61); means for monitoring at least one of the floating power device and the load for detecting a fault (Fig. 3 element 77), and upon detecting a fault, for generating a fault detect signal (Col. 3 lines 11-14 & Fig. 3 element 77<a differential amplifier compares the voltage at the load>); the

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circuit with a means for attempting, responsive to generating of the fault detect signal, to pre-charge the reservoir capacitor to a voltage level sufficient for switching of the at least one switch to proceed without damaging the at least one switch (Fig 3 elements 62, 64, 66, 68, 70, 71a, 71b, 72, 74, 76 <these components form part of the precharge circuit that precharge the capacitor 60, they are controlled by element 78 when receiving a signal from element 77, the switches are protected by precharging the capacitor to a level enough not to exposed to switches to high voltages when connecting the supply to the load>).

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. §103(a), which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Claims 4, 10, & 16 are rejected under 35 U.S.C. §103(a) as being unpatentable over Skibinsky et al. (US 3526778) in view of Hawkes (US 5808883).

Regarding claims 4, 10 & 16 Skibinsky et al. discloses the protection circuit of claim 1.

Skibinsky et al. further discloses the power supply charging the reservoir capacitor of the floating power transfer device when the at least one switch is turned on (Fig. 3 element 76).

Skibinsky et al. does not disclose wherein the floating power transfer device further comprises a power supply having a voltage level in a range of 5 to 20 volts.

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Hawkes teaches wherein the floating power transfer device further comprises a power supply having a voltage level in a range of 5 to 20 volts (Col. 3 lines 59-61).

It would have been obvious to one of ordinary skill in the art at the time the invention was made to modify Skibinsky et al. in view of Baumgartner et al. device with the power source of Hawkes since voltages in this range can be easily regulated to the known required voltages for computer devices and systems.

Claims 6, 12, & 18 are rejected under 35 U.S.C. §103(a) as being unpatentable over Skibinsky et al. (US 3526778) in view of Portasik (US 4452582).

Regarding claims 6, 12 & 18 Skibinsky et al. discloses the protection circuit of claims 1, 7 & 13.

Skibinsky et al. does not disclose comprising a temperature sensor for detecting when temperature of the at least one switch rises above a set temperature level, and for sending an over temperature signal to the control circuit responsive thereto, wherein the control circuit further comprises means for temporarily shutting down the floating power transfer device and subsequently reinitiating a startup procedure responsive to receipt of the over temperature signal.

Portasik teaches a electrical device with temperature sensors and protection to the circuit by turning the power down or off if the heat is over certain value (Abstract).

It would have been obvious to one of ordinary skill in the art at the time the invention was made to modify Skibinsky et al. with the teachings of Portasik to provide the circuit and in particular the switches with a protection against overheating.

Allowable Subject Matter

Claims 5, 11 & 17 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

Regarding claims 5, 11 & 17 Skibinsky et al. in view of Hawkes discloses the protection circuit of claims 4, 10 & 16.

Skibinsky et al. in view of Hawkes does not disclose wherein the at least one switch comprises two switches operated in tandem for cyclically applying the power supply voltage across the reservoir capacitor to charge the capacitor.

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The indicated allowability of claims 6, 12 & 18 is withdrawn in view of the newly discovered reference(s) to Portasik (US 4452582). Rejections based on the newly cited reference(s) are above.

Applicant's arguments with respect to claims 1 - 19 have been considered but are moot in view of the new ground(s) of rejection.

Conclusion

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Luis E. Román whose telephone number is (571) 272 – 5527. The examiner can normally be reached on Mon – Fri from 7:15 AM to 3:45 PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Brian Sircus can be reached on (571) 272-2800 x 36. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from Patent Application Information Retrieval (PAIR) system.

Status information for unpublished applications is available through private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

LR/080906

Luis E. Román
Patent Examiner
Art Unit 2836



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